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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,349	03/16/2001	Wolfgang Rohde	07258-022001	4891

7590 11/14/2003

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EXAMINER	
KUBELIK, ANNE R	

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action	Application No.	Applicant(s)	
	09/700,349	ROHDE ET AL.	
	Examin r	Art Unit	
	Anne R. Kubelik	1638	

--The MAILING DATE of this communication appears on th cover sh et with the correspondence address --

THE REPLY FILED 03 October 2003 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

a) ☐ The period for reply expires _____months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1.☒ A Notice of Appeal was filed on *03 October 2003*. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.

2.☒ The proposed amendment(s) will not be entered because:

(a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);

(b) ☒ they raise the issue of new matter (see Note below);

(c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

(d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: *See Continuation Sheet*.

3.☒ Applicant's reply has overcome the following rejection(s): See Continuation Sheet.

4.☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

5.☒ The a)☒ affidavit, b)☐ exhibit, or c)☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: *See Continuation Sheet*.

6.☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.

7.☒ For purposes of Appeal, the proposed amendment(s) a)☒ will not be entered or b)☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: *28-37*.

Claim(s) withdrawn from consideration: _____.

8.☐ The drawing correction filed on _____ is a)☐ approved or b)☐ disapproved by the Examiner.

9.☐ Note the attached Information Disclosure Statement(s)(PTO-1449) Paper No(s). _____.

10.☐ Other: _____

Continuation of 2. NOTE:
New matter: there is no support in the specification for the instant invention being one that uses a nucleic acid encoding any virus-encoded transport protein other than the tobacco mosaic virus movement protein or a derivative thereof.

Continuation of 3. Applicant's reply WOULD HAVE overcome the following rejection(s): 102(b) over Lucas et al; however, note the new matter rejection above.

Continuation of 5. does NOT place the application in condition for allowance because:
112, 1st, enablement: The Declaration of Dr. Wolfgang Rohde states that he has observed that generally tolerance to drought and extreeme temperatures go hand in hand and that because they have demonstarted that plants transformed with [a nucleic acid encoding] viral transport protein are tolerant to drought, they would be tolerant to extreme temperatures. He urges that both monocots and dicots can be transformed by the appropriate pr17 or pr17-N constructs and result in plants with increased tolerance to drought, fungal infections and extreme temperatures. He urges that other derivatives of pr17 or different movement proteins of other plant viruses, whether wild-type or mutant, should confer tolerance to drought, fungal infections and extreme temperatures. This is not found persuasive. Tacke et a (1996, Nature Biotechnol. 14:1597-1601) teach that potato plants transformed with a nucleic acid encoding wild-type pr17 or pr-17 with an N-terminal extension other than SEQ ID NO:1 were not resistant to potato virus X (pg 1596, paragraph spanning the columns). Thus, it remains unclear that a nucleic acid encoding pr17 + SEQ ID NO:1 would work in other plants, particularly distantly related ones like cereals. Neither the specification nor the prior art teaches nucleic acids encoding derivatives of pr17 other than pr17-N. The specification does not teach what other nucleic acids encoding viral transport protein would work in the instant invention. Applicant's aruments with respect to the correlation between tolerance to drought and to extreme temperatures is accepted.
112 1st, written description: Applicant urges that sufficient, relevant, identiying structural and physicai characteristics of plant viral transpor proteins are disclosed on page 7-8, including citation of references whose content is incorporated by reference. The structural and physical characteristics of the viral transport protein pr17 are disclosed on page 8 at lines 7-21 of the specification, which describes an amino terminal domain for homopolymer formation, a carboxyterminal domain for binding single-stranded amino acids, and plasmodesmatal localization of infection-derived and transgenic pr17 in phloem cells. Applicant urges that the specification further discloses that expression of WT and mutated PLRV transport proteins (PLRV-TPS) confers broad-spectrum resistance to viruses and increases in intracellular sugar and starch concentrations (page 8 at lines 21-27). This is not found persuasive: none of the cited pages describe any derivative of pr17 other than pr17-N. None of the refernces incorporated by reference were sent, so they could not be considered, but based on their citation in the specification, none appears to describe nucleic acid encoding other viral-encoded transport proteins or derivavtives of pr17 other than pr17-N.
112, 2nd, Applicant urges that one of skill in the art would interpret " a derivative thereof" to include any pr17 derivative that, when expressed in a plant, would confer increased tolerance against drought, fungal infections, incraesed salt concentrations or extreme temperature and that the specification provides the example of pr17-N. Furthermore, Applicant urges that one of skill in the art could make derivatives of pr17 and test them using the teachings of the specification. This is not found persuasive. It is unclear how derivative of pr17 differ in sequence from pr17. From Applicant's response it appears that they consider anything that works, regardless of sequenc or source, to be a derivative of pr17; however, it is unclear what the sequence of those derivatives are. Thus, the metes and bounds of the claimed invention are unclear. Applicant urges that pg 1, lines 10-11, teach that the plant is transformed with a nucleic acid that encoded a viral transport protein. This is not found persuasive because pg 1, lines 10-11, uses the rejected phraseology without definition. thus, it remains unclear if the plant is being transformed with a virus or does it simply mean the nucleic acid encodes a viral transport protein. It is suggested that "viral-encoded" be replaced with --viral--.

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